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In Reply Refer To
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999 18th Street, Suite 500
Denver, CO 80202-2466

Subject: U.S. Fish and Wildlife Service Comments on Richardson Flat Tailings (RFT) Site, Focused Feasibility Study (FFS), Volume II

Dear Ms. Churchill:

This letter transmits the U.S. Fish and Wildlife Service (the Service) Utah Field Office's comments on the proposed cleanup plan and Focused Feasibility Study (FFS) issued for the Richardson Flat Site (RFT), located in the Silver Creek watershed in Summit County, Utah. Although the public comment period for this plan ended on October 5, 2004, the Service did not receive a copy of the FFS, which contained more detailed information about proposed cleanup measures, until October 5, 2004. We appreciate the extension of time in which to submit these comments.

On the whole, the proposed plan and FFS contain no surprises, and the general remedial approach is consistent with cleanup goals and strategies that have been discussed among stakeholders, including the Service, at numerous meetings of the Silver Creek Watershed work group. These strategies essentially consist of improving the soil cover that is already in place on the tailings impoundment; upgrading and reinforcing the embankment separating the tailings from Silver Creek and wetlands on the northwest corner of the impoundment; removing tailings from areas where they are exposed on the RFT site, such as the low area on the south side of the impoundment, and from within the wetland at the toe of the embankment; and using the RFT impoundment as a repository both for those tailings, as well as those from other sites within the watershed. Comments and questions regarding specific text passages in the FFS are presented in sections A and B of this letter.

In addition to these general comments, the Service has concerns regarding the sufficiency of the proposed cleanup measures for sediment-associated features to provide long-term protection of ecological receptors, including Service trust species, from exposure to heavy metals contained within the tailings. These features, namely the diversion ditch running along the south side of the impoundment, the pond at the terminus of the ditch,

and the wetland extending between Silver Creek and the base of the embankment on the northwest corner of the impoundment, were documented to pose excessive risk to ecological receptors at the RFT site. A more detailed discussion of this issue is found in Section C of this letter.

A. Comments regarding corrections and clarifications

There are several corrections and clarifications that should be made in the document, including:

1. (Section 1.2, Page 5, Paragraph 3). "*Seasonal surface water occurs on the impoundment and topographically low area...*" should be changed to: "*Seasonal surface water occurs* in an area of approximately 2-5 acres *on the* northern portion of the *impoundment, and* on a *topographically low area...*"

   The FFS (and the Remedial Investigation, as well) pays little attention to the relatively large seasonal wetland in the northern portion of the tailings impoundment. This area is approximately 2-5 acres in extent, and has been historically documented by FWS staff as containing water long enough in the spring and early summer to support seasonal wetland communities, including use by ducks, coots, shorebirds, and other wetland related species. In 2004, a pair of sandhill cranes successfully hatched two chicks in the wetland. Upon review of the data presented in the RI, it appears that soil samples were collected *around* the wetland, but soil/sediment or water samples were never collected within the wetland. It was documented in the RI that the depth of cover (of capping materials) was likely thin in this area, with soil samples collected around the margin of the wetland containing elevated metals concentrations. Therefore, it is likely that soil/sediment cover within this wetland area also contains elevated metals concentrations, but this was never evaluated in the RI. Where appropriate in the discussion in the FS, this data gap should be addressed, and this wetland area should be given equivalent weight and emphasis as the other wetland areas identified on the site (i.e., the areas outside the cap on the southeast margin of the impoundment, which also contain seasonal wetlands;, and the wetlands at the toe of the embankment).

2. (Section 1.2, Page 6, Paragraph 3) "The ecological risk assessment determined that there is some risk to ecological receptors..." Please provide a bit more detail here. What constituent(s) drove the risk? What was the magnitude of risk? What receptors had "some risk?"

3. (Sections 2.4.5, 2.4.6, and 2.4.7, Pages 14-15) Sentences in these sections appear to be incomplete ("*The United States Fish and Wildlife Service has been consulted regarding potential impacts on* [fish and wildlife (Section 2.4.5); endangered and protected species (Section 2.4.6); migratory birds (Section 2.4.7); respectively] *and each alternative could be performed in such a manner*[...? (resultant clause omitted from sentence)]." Additionally, the FFS should specify and discuss in these sections (a) the potential impacts (if any) that were identified in consultation with the Service, and (b) how all of the alternatives under study

manage to avoid these impacts. Simply stating non-specifically that impacts have been identified and could be avoided does not provide enough information to evaluate or verify that this is the case.

4. (Section 4.0, starting on page 21) This section, entitled "Identification and Screening of Technologies", identifies and evaluates remedial alternatives for soils (Sections 4.2, 4.3, and 4.4) and water (surface and groundwater, Section 4.5). However, there is no discussion of remedial alternatives for sediments, which are present at the RFT site and in fact were identified in the risk assessments as the largest source of risk at the site (see further discussion of this issue in Section C of these comments).
5. (Section 4.3.3, page 28, first paragraph) There are several typographic errors and grammatical omissions in this paragraph.

B. Questions on specific items in the FFS:
There are several questions regarding decisions, statements or proposed actions, including:

1. (Section 1.2, page 5) How was a "background" concentration of 114 parts per million (ppm) lead arrived at to delineate the site? This seems a little high. Is there a rationale such as that the area contains mineralized soils, or that regional mining activity in the Park City district has resulted in overall elevated concentrations of lead?

2. (Table 2-1, and Section 2.4.1, page14; Requirement "Protection of Wetlands") In general, the ARARs section of the FFS lacks detail on how ARARs will be achieved. Of concern to the Service is how ARARs relating to the protection of wetlands will be achieved. While Superfund's ARAR process exempts remediation at Richardson Flat from Section 404 wetland permitting requirements (i.e., the need to obtain a permit from the Army Corps of Engineers in order to dredge and/or fill wetlands on the site), EPA and UPCM need to complete activities equivalent to those that would be required by a these regulations. Have wetlands on the RFT site been delineated and a determination made as to which wetland areas on the site (if any) are under the jurisdiction of Section 404 of the Clean Water Act?

3. (Sections 2.4.5, 2.4.6, and 2.4.7, Pages 14-15) In addition to the comment provided on these sections in Part A, above, what is the nature of the applicability of these regulations (Fish and Wildlife Coordination Act, Endangered Species Act, Migratory Bird Treaty Act) on the remedial actions being proposed at RFT?

4. (Section 4.2.1, page 24, paragraph 2) Statements contained in this paragraph, relating to the effectiveness of placing a gravel barrier over contaminated sediments in reducing contact/ingestion of the sediments by biota, are not substantiated. Given that this exposure pathway presents the greatest risk to ecological receptors at the RFT site, more attention should be paid to the effectiveness of the remedial alternative(s) in reducing the risk. See further discussion of this issue in Section C of this letter.

5. (Section 5.2, page 37, paragraph 2) This paragraph states that under Alternative 2, "*the north half of the impoundment would require additional soil cover*", and that a "*drainage channel would be constructed within the impoundment that would divert surface water from the low-lying northern portion of the impoundment into the South Diversion Ditch.*" This action will result in the loss of the seasonal wetland in the northern portion of the impoundment. Has this action been evaluated with respect to Section 404 of the Clean Water Act, which was identified as an ARAR in Section 2.4.1 of the FFS (i.e., has the wetland been evaluated to determine if it is under the jurisdiction of Section 404)? While this area is likely to expose ecological receptors to risk due to elevated metals concentrations (see Comment A-1, above) and therefore should be remediated, loss of this wetland (if jurisdictional) should be compensated for in a manner equivalent with Section 404 provisions.

C. Comments regarding the identified remedial alternative(s) for contaminated sediments

In addition to the section-specific comments above, there is a larger concern from several standpoints regarding the FFS' analysis of remedial alternatives for contaminated sediments at the RFT site. These sediments, located in the bottom of the south diversion ditch, the pond at its terminus, and in the wetland at the base of the tailings impoundment embankment, were identified in the Baseline Ecological Risk Assessment (BERA) as posing risks to ecological receptors, and were in fact the largest source of risk to these receptors at the RFT site. Despite this, it appears that the FFS scoped and evaluated remedial technologies for soils (i.e., of the cap, and soils contaminated by tailings), but disregarded an evaluation of remedial technologies for sediments, which, in addition to forming one of the highest-risk potential exposure pathways at the RFT site, are also very different from soils in terms of physical nature and contaminant fate and transport. Instead, the FFS proposes a single "technology" – depositing 18" of gravel over the contaminated sediments – for a single alternative (Alternative 3). There is little real evaluation of the effectiveness and permanence of this action—the analysis essentially amounts to statements that the action "is effective" without discussing or providing supporting documentation for why this would be the case. Nor is there a comparison of the relative costs and effectiveness of this action compared to other alternatives. Based on familiarity with the RFT site, it seems that excavation of the sediments and placement in the impoundment (as was specified in several of the Remedial Alternatives for tailings located outside of the impoundment south of the diversion ditch) would be a feasible treatment "technology", which would not appear to be dramatically more difficult or expensive than placing gravel in the ditch. Furthermore, excavation would likely be much more effective in meeting the criterion of "long term effectiveness and permanence" than would be placement of gravel. If there are overwhelming reasons why placement of gravel would be superior or preferable to excavation, these should be presented in the FFS. In either case, the FFS should address issues relating to the effectiveness and permanence of the placement of gravel in the ditch and pond. At first glance, these issues may include, but are not limited to, the potential for leaching or solution of metals in the sediments through the gravel "barrier", the potential for scouring of the gravels or resuspension of the underlying sediments by flood events (such as by

sudden snowmelt) and the impact of the gravel layer on the diversion ditch's volume and ability to contain sudden run-on.

The Service recognizes and appreciates that the diversion ditch and pond may potentially be the site of additional restoration activities conducted under the terms of a Natural Resource Damages Assessment and Restoration (NRDAR) settlement with UPCM, and that, in the interests of efficiency and decreased costs, remedial actions in these areas should be coordinated with restoration. However, the starting point for NRDAR-led restoration should be an adequately remediated baseline condition.

The Service appreciates EPA's efforts in developing a functional cooperative process for addressing the many cleanup issues in the Silver Creek Watershed, and we look forward to continuing to work with EPA and the Silver Creek stakeholders in this effort. If you have any questions, or would like to discuss these comments further, please feel free to call Ms Chris Cline of this office at 801-975-3330 x145, or she can be reached by email at chris_cline@fws.gov.

Sincerely,

Henry Maddux,
Utah Field Supervisor

cc: John Whitehead, Utah DEQ, Division of Water Quality
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